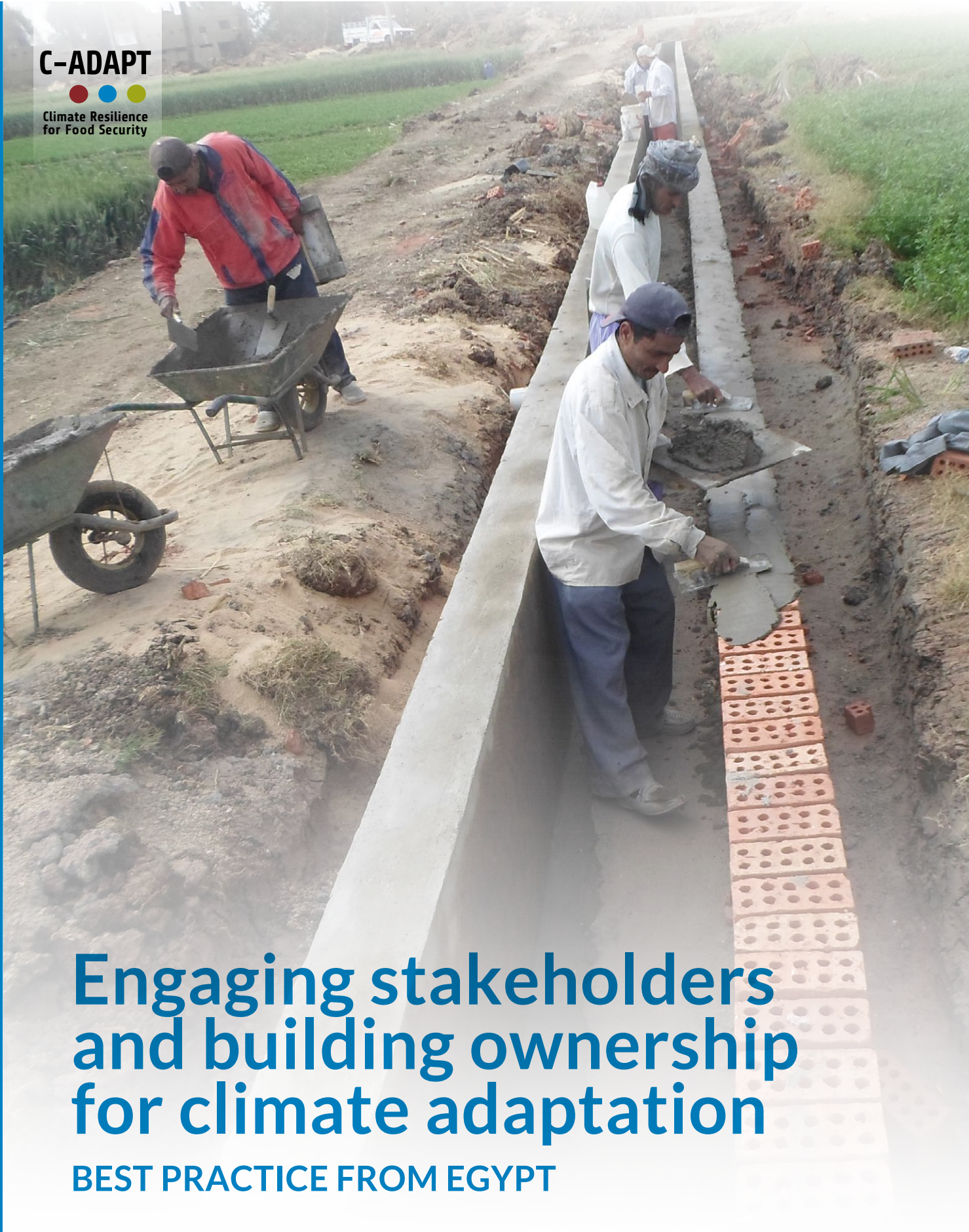


C-ADAPT



Climate Resilience
for Food Security



Engaging stakeholders and building ownership for climate adaptation

BEST PRACTICE FROM EGYPT



**World Food
Programme**

wfp.org

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Enogou Qebli village, Luxor. This is one of the three villages in Esna district, in Luxor Governorate where all project components are implemented.

WHAT is this Best Practice?

This document is part of the **Climate Adaptation and Resilience for Food Security: Analysis, Innovations and Standards Series**. It explores how stakeholders were involved within a climate change adaptation project funded by the Adaptation Fund in Southern Egypt, and the important role this played in building ownership and sustainability.

WHO is this Best Practice for?

The project integrates a number of different technical activities to provide food insecure populations with a variety of tools to build their climate resilience. This best practice is intended to serve as a practical example for Governments, interested Stakeholders as well as WFP and other humanitarian and development organizations, alongside donors.



A sugarcane grower holding a sample of the new variety crop from his family field in Tomas 3 village, Luxor

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1. Building resilient food security systems to benefit the Southern Egypt region

An Adaptation Fund project



Building resilience and adapting to climate change is critical for addressing hunger and ensuring food security. The World Food Programme acknowledges that its vision to eradicate hunger by 2030 can only be achieved with urgent and ambitious action to address the challenges of climate change. In the past five years, 40 percent of WFP's operations have included activities to reduce climate-related disaster risks, build resilience and help affected populations adapt to climate change. The Paris Agreement highlighted the international community's emphasis on addressing the impacts of climate change on the most vulnerable. The importance of sharing key lessons and best practices is paramount to ensuring such innovations can be scaled up and replicated.

This best practice explores how stakeholders were involved within a climate change adaptation project in Southern Egypt, and the important role this played in building ownership and sustainability. The project, funded by the Adaptation Fund, integrates a number of different technical activities to provide food insecure populations with a variety of tools to build their climate resilience. To date, a number of positive outcomes and lessons learned have emerged from the project which has supported scaling up the initiative to other parts of the country.

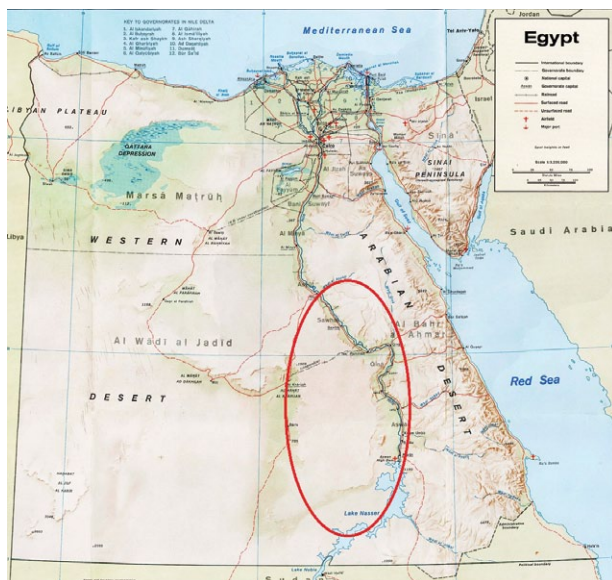
The project highlights that regardless of where a climate change adaptation programme is implemented, it is a multidimensional effort in which several stakeholders have different, yet complementary roles to play. To effectively achieve common objectives, a key aspect of project planning and design should involve consultation and cooperation with numerous stakeholders, at the central, regional and local levels. Innately, each of these stakeholder groups has its own needs, priorities, governance structures and/or governing regulations as well as way of operating. Thus establishing measures and tools that integrate inputs, create synergies and facilitate cooperation among diverse players is a critical aspect of successful and sustained realization of climate change adaptation objectives.

This report first introduces readers to the Southern Egypt region and the climatic challenges it faces, before describing the "Building Resilience Food Security Systems to Benefit the Southern Egypt Region" project. It then turns to the different tools and structures put in place to engage stakeholders into the project, and how ownership was built through incorporating systems into existing structures. A final section highlights the impacts and lessons learned.

About Southern Egypt

Egypt is comprised of three agro-ecological zones, namely Lower, Middle and Southern (also known as Upper) Egypt. Egyptian agriculture is dominated by smallholdings of less than 0.4 hectares. **Southern Egypt** is comprised of five Governorates: Assiut, Sohag, Qena, Luxor and Aswan. With a population of 11.8 million, of which almost 7 million live in rural communities, the region is home to 13 percent of Egypt's population and 45 percent of the country's rural population. It has a cultivated area of 1.13 million acres, constituting 14 percent of the country's agricultural land. With almost 46 percent of households living under the national poverty line, more than twice the rate elsewhere, and over 15 percent of its population defined as extremely poor, the Southern Egypt region is the poorest region in the country. Within this region, Upper Egypt in particular also comprises some most of the most severely deprived governorates as depicted by WFP's 2009 Food Security Mapping exercise.

FIGURE 1
Southern Egypt



The challenge: what will climate change mean for food security in Southern Egypt?

Climate change in Southern Egypt is expected to face increases in temperatures and reduced precipitation.¹ The region stands to lose up to at least 30 percent of its food production by 2050 as a result of climate change impacts, including reduced crop and livestock productivity, increasing crop-water demand and reduced water use efficiency, and increase in pest and disease infestations. **Climate change thus has significant ramifications for the food security and livelihoods of rural communities in Southern Egypt.** Some key impacts include:

REDUCED CROP PRODUCTIVITY

Studies indicate that the expected increase in temperature will affect crop yields and give rise to pests, many of which are unknown to farmers. This will reduce the agricultural productivity, which in turn **will affect the incomes of the 55 percent of the labor force engaged in agriculture, and the food security and livelihoods of millions more – especially women – engaged in micro-enterprises that depend on agriculture.**

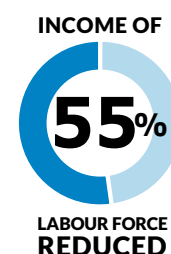


TABLE 1

Projected changes in crop production in Egypt under climate change conditions

Crop	Change percent	
	2°C temp. Increase	4°C temp. Increase
Wheat	- 14	- 36
Maize	- 19	- 20
Soybeans	- 28	n/a
Barley	- 20	n/a
Cotton	+ 17	+ 31

Source: Egypt Agriculture Climate Adaptation Strategy, 2010.

1. Ministry of Agriculture. National Strategy for Climate Adaptation in Agriculture. August 2010.

REDUCED AVAILABILITY OF WATER RESOURCES

Egypt relies on the Nile to provide 95 percent of its water resources. The country's sensitivity to changes in precipitation rates on the Ethiopian Plateau and increases in temperatures and associated evaporation losses is thus extremely high. Since 85 percent of water resources are used for agriculture, any deficit in Nile water flow will directly affect people's food production and security, particularly in Southern Egypt, where crop-water demands will increase with temperature rises. This threat is even more worrying since Egypt is a water-stressed country, where irrigation efficiency is low. These produce additional **run-off effects for people's health and nutrition.**

RISING CROP PESTS AND DISEASE LEVELS

Higher temperature causes negative effects in the form of rising crop pest levels that negatively affect crop productivity and farmers' livelihoods. Scientific observations confirm that the severity of some pests and diseases affecting strategic crops has increased in the last few decades. Examples include severe diseases affecting tomatoes (eg. *Phytophthora infestans* and *Tuta Absoluta*) and linked to climatic changes. Wheat leaf rust caused by fungi *Puccinia triticina* and stripe rust disease caused by fungi *Puccinia striiformis* are also increasing due to rising temperatures. Furthermore, *downy mildew* was also reported by Southern Egyptian farmers in focus groups to have increased in this region.

REDUCED LIVESTOCK PRODUCTIVITY

Climate-induced heat stress reduces livestock productivity and subsequently farmers' livelihoods. New animal diseases, including Blue Tongue disease and Rift Valley fever, have emerged in Southern Egypt. Both are attributed to observed changes in the climate. In field consultations, women in Shouraneya village, Sohag Governorate reported that "*cattle in the village have recently suffered from increased incidence of fever in higher temperatures and we cannot explain why... if not caught in time, the cattle can die.*" The availability of fodder is also at risk, with farmers in Sohag reporting stunted clover crops. Similarly, increases in temperatures are becoming hazardous to laying hens, not only because of greater mortality rates, but also because of the reduction in the number and quality of the eggs produced. Farmers in Sohag reported that they can buy chicks for as much as EGP 50, but that they end up dying because of high temperatures.

INSTITUTIONAL ISSUES WHICH COMPOUND THE IMPACT OF CLIMATE CHANGE ON FOOD SECURITY

Farmers report that extension services provided by the Government and by some private companies do not adequately account for climatic factors, and are in general insufficient for their needs. There is a shortage of on-farm educational programmes, such as demonstration farms, information channels and farm-to-farm exchanges. This is in addition to limited linkages with social protection programmes and financial solutions and their unsuitability to the nature of agriculture and animal raising activities. This limits the ability of farmers to innovate and adopt new initiatives to overcome climatic challenges. Financial solutions are limited to micro-lending. Other – maybe often more suitable – services such as micro-savings, insurance and guarantees, are mostly not known or accessible.

How can these challenges be addressed? Learning from an Adaptation Fund project

WFP in collaboration with the Government of Egypt has been implementing a four year project funded by the Adaptation Fund of the United Nations Framework Convention on Climate Change (UNFCCC). The "Building Resilience Food Security Systems to Benefit the Southern Egypt Region" project, has the following objectives:

- 1) improve the adaptive capacity of food insecure communities within Southern Egypt in the face of anticipated climate-induced reduction in food production; and
- 2) build institutional capacity at all levels to enable sustainability and replication throughout Southern Egypt and the country.

The project involved one year of stakeholder engagement and detailed design of the adaptation interventions, before activities began from March 2013 in 14 villages in Assuit, Sohag, Qena, Luxor and Aswan. The project is expected to end in October 2018.

To achieve its objectives, the following climate change adaptation activities were identified by partners for implementation:

- improve food insecure people's access to weather forecasts and advice on what to do to reduce the impacts of foreseen extreme weather events;
- introduce food insecure populations to heat tolerant varieties of crops through improved agricultural practices such as raised bed cultivation;
- help to diversify livelihood and income sources of these vulnerable groups (including through facilitating guidance on intercropping, animal production loans and use of agricultural wastes in fodder production);
- help to add value to these people's existing income sources (including through facilitating guidance on improved post-harvest practices and small scale food processing);
- enhance irrigation water management efficiency for these vulnerable groups through community-level asset creation projects; and
- build local and regional capacity for sustainability through institutional strengthening activities.

The contributions of technical partners was essential to the delivery of this wide range of activities that would provide people with an integrated set of tools to build their climate resilience. WFP acted as an enabler and coordinator, linking together several partners in the region to deliver comprehensive and holistic adaptation support, including with the Ministry of Agriculture, Agriculture Research Center (including its different relevant Research Institutes), Directorates of Agriculture, Veterinaries, Irrigation, Social Solidarity and Education in the 5 Governorates, the Egyptian Environmental Affairs Agency, the Egyptian Meteorology Authority, 14 local CDAs and local community members, the University of South Valley, and the Agricultural Secondary Schools in the project Districts.

This best practice highlights how stakeholders have been involved in this climate change adaptation project and the important role this has played in building ownership and sustainability. A number of positive outcomes and lessons learned have also emerged and supporting scaling up of the initiative to other parts of the country.



7 Farmers have participated in land consolidation intervention and cultivating new wheat varieties in Enogou Qebli village, Luxor.

2. Stakeholder engagement

The project adopted a participatory approach that engaged the different stakeholders throughout the different project phases. The main objective of this was to:

- **build ownership among the different stakeholders** as a means for enhanced results and sustainability of project;
- **encourage the different stakeholders to work collaboratively towards one goal**, thus build synergies and enhance efficiency; and
- **enhance capacities of the different stakeholders** as needed to enable them to play their respective roles in implementation and sustainability of the project activities.

The following are the main measures taken towards the achievement of these objectives:

STAKEHOLDER'S INVOLVEMENT IN THE PROJECT FORMULATION PHASE

Stakeholders were involved from the very beginning at the project identification and design stages to ensure relevant interventions as well as feasible implementation mechanisms could ultimately be sustained after the project lifetime. To that end, two stakeholder consultations were held; one in the Southernmost and another in the Northernmost of the proposed project governorates. These consultations brought together representatives from local communities, civil society and government officials to discuss priority problems, needs, plausible interventions and possible implementation mechanisms. The stakeholders jointly identified a number of food security challenges including responding to changes in the agricultural climate, and limited capacity and technology application in Upper Egypt villages. This consultation identified the preliminary list of potential interventions that were to be included in the project.

Consultations were then followed with summary central-level meetings among national actors, including officials from the Ministry of Agriculture, the Ministry of Irrigation, the Egyptian Environmental Affairs Agency, the concerned research centres and institutes, as well as other donor agencies working in agricultural development where the project concept note was finalized.

Upon approval of the project concept note, further consultations were conducted with different stakeholders as described below in Southern Egypt to enhance engagement and ownership. Consultations were carried out by a team from WFP and the Ministry of Agriculture.

Techniques used included:

- **Focus group discussions with farmers from the project governorates** to get their feedback on climate issues, how it affects their lives; proposed priority solutions from their perspectives; and institutions which would manage them on their behalf. A focus group tool was developed, comprised of a series of unstructured questions to guide the discussion. Participants in each focus group discussion included 15-25 farmers and local and community officials. To ensure gender-sensitive feedback, focus groups particularly composed of women were also conducted.
- **In-depth personal interviews** with concerned officials and resource persons, such as the directors of Agriculture in the different Governorates, as well academic experts from the local universities and heads of local NGOs.
- **A rapid survey** with the selected project villages was undertaken to seek the villagers' opinions and engagement in the project design. A random sample of 100 people were involved in each village.

The above tools sought to obtain input on aspects that would influence the project design from different perspectives. Equally important was to widen the base for stakeholder engagement in the early phases of the project cycle.



A hibiscus field in Tomas 3 village, Luxor. With enhanced extension services and consultancy package on high value cash crops, farmers are able to achieving higher yields and more income stability.

STAKEHOLDER'S INVOLVEMENT IN THE PROJECT IMPLEMENTATION

As implementation started, the project used several tools to ensure stakeholders' active engagement in planning, guiding and implementation of activities for enhanced ownership and sustainability.

FIGURE 2

Steering and technical support committees in place



- **Community Project Support committees** hosted by local partner (NGOs) were established to meet monthly. The committees have agreed on upcoming activities, monitor ongoing ones, discuss risks and challenges faced, and means to overcome them, as well as assign roles and responsibilities to the different implementation teams. These project support committees proved very effective in supporting implementation and overcoming challenges. One example was their ability to seek and pursue solutions to legal challenges encountered during the establishment of Water Users Associations in the project villages. They were also very good agents for the participatory administration of local irrigation enhancement activities thereafter.
- The project established **district-level Coordination committees** to support implementation and encourage official adoption of interventions.

Comprised of middle-management officials from concerned ministries - the Ministries of Agriculture, Irrigation, Education and Social Solidarity - this committee has met quarterly to review progress, discuss challenges and guide next steps. Working at the district level, these committees provide feedback to higher-level committees, particularly on issues requiring interventions or support from officials at governorate or national levels. They have been very supportive in several ways. For example, their expedited assistance in the issuance of needed NGO permits has been instrumental to the official establishment of the project partnerships with the local NGOs.

- The **Governorate Coordination Committees** are chaired by the Governors and comprised of the Directors of Agriculture, Irrigation, Education and Social Solidarity and meet quarterly. Already, these committees have been an effective tool in enhancing governmental engagement and commitment towards sustained project interventions, including in strategically guiding the project, leveraging additional resources and overcoming challenges. Among their support, these committees facilitated access to subsidized fertilizer, inducing reductions in project expenditure on this agricultural input. They have also successfully replicated and disseminated some of the project successes at the Governorate level. The replication of the project local Climate Information Centers in the Agricultural Directorates of the Governorates is one of several examples.
- The **National Project Steering Committee** comprises of WFP, the Ministry of Agriculture, Directors of the relevant research institutes,² the Egyptian Environmental Affairs Agency, and the Egyptian Metrological Authority. Meeting quarterly, this committee has been a very successful tool to engage central senior-level officials who offered strategic guidance and support. Their support to raise the Government buying prices of sugarcane produced by project-introduced varieties has strategically supported the dissemination of the variety throughout the Southern Zone. Equally important, it has successfully induced the adoption

2. Animal Production Research Institute, Horticulture Research Institute, Land, Water and Environment Research Institute, Sugar Crops Research Institute, Central Laboratory for Climate Change, among others.

of some project interventions nationally. The adoption of climate adaptation techniques in wheat production by the National Wheat Campaign was among the showcase examples.

- **Annual Project Workshop** to bring together the representatives of the different partners to share experiences, discuss challenges faced and lessons learned during the year and develop the project work plan for the upcoming year. Participants in this event include representatives of the partner NGOs in the all the project villages, the concerned government officials from the five project Governorates, as well as technical experts of different project interventions.

IMPLEMENTATION THROUGH VOLUNTEERS

The project engaged an average of 30 community volunteers from each of the village sites to assist in several activities. The volunteers received training on climate impacts on agriculture and different techniques that can be used to build resilience in this regard. They then received training in community mobilization techniques, effective communication, and computer skills. Deploying these skills, they have been very effective in the different community mobilization and engagement activities such as awareness raising events, contests, and home visits. The volunteers have also been entrusted with supporting maintained links between local NGOs and beneficiaries. Promoting the ownership notion, they enhanced stakeholders' interest in taking part and sustaining project activities and outputs. Volunteers were also trained in sustaining some outputs after the project lifetime, such as the management of climate information centers established within the local NGOs.

CAPACITY BUILDING

In parallel to the different engagement tools, the project also works on raising capacities of the different stakeholders to enable them to play their expected roles in implementing and sustaining the project interventions. To that end, the capacity of local partner NGOs was raised through trainings on necessary skills such as project management, administration of revolving loans, communications skills for stakeholder engagement and strategic planning. Support also included the physical upgrading of the NGOs buildings as well as equipment. Loans management unit were also established in these NGOs.

Capacity of the relevant governmental staff was also developed for their enhanced engagement and adoption of project activities. Extension workers were involved in the different crop and animal production trainings as well as the operationalization of the project-developed software for support in foreseen extreme weather spells. Likewise, involvement of the staff from the different directorates in the wide range of awareness raising activities as well as trainings enhanced their capacity to support the project. More strategically, it enhanced their interest and ability to adopt the project interventions at different levels.

Continuous on-the-job training is being offered to the different stakeholders during implementation, enhancing their buy-in.

Building ownership and sustainability

As part of its ownership building initiatives and for increasing potentials for sustainability after its lifetime, the project endeavored to have established systems become incorporated into existing structures.

The climate information centres that were established in each village as well as at the governorate level are good examples. Upon building their capacities, the project had the local NGOs and agricultural directorates host and operate these centres at the village and governorate levels respectively.

Another example is where units were established to manage a revolving loans scheme created by the project; these units have now become affiliated to the local NGOs to continue on this service.

Likewise, and in the absence of national laws and regulations to govern their establishment and operations, the project worked with the local NGOs to 'own' its newly established water users associations. Established as committees in local NGOs, these associations have now a legal status. They also benefit from the supervision and support of their host NGOs, which sustainably enhances their ability to support the farmers in improving irrigation efficiency.



Hanan from Enogou Qebli village, Luxor. Hanan benefits from the goat animal loan provided by the project through the local community development association (partner NGO).

3. Impacts and lessons learned

Many lessons can be drawn from the consultative approach used by the project to enhance stakeholder engagement and building ownership and how this has affected efficiency, effectiveness and the potential for sustainability after its lifetime.

In particular, intensive consultations with the different stakeholders at the early phases of the project cycle were a good means for engagement. Likewise, involvement in different committees had benefits on several fronts. As each stakeholder group provided input from its own perspective, these consultations provided a good platform for integrating and complementing these multi-dimensional inputs in a way that enriched the design.

The project also created a sense of involvement that gradually evolved into ownership of the different activities, and triggered their support in the different phases of the project. It has also initiated a team-spirit that smoothed effective collaboration towards one goal, including:

- The deployment of local volunteers has been effective in many aspects. Since they were from the same villages, they substantially facilitated the project outreach and community mobilization activities. **Female volunteers have been particularly very effective as they supported activities that would have otherwise been difficult, such as household visits, and subsequently increasing women's participation in project activities.** Entrusting volunteers with management of outputs such as the climate information centres after the project lifetime will also effectively enhance their sustainability through creating a sense of responsibility.
- **The involvement of stakeholders at the different local, sub-national and national levels has supported the project's sustainability.** As highlighted above, the support of the local committees enhanced the daily management of the activities. Higher-level committees, on the other hand, gave longer-term support and guidance. Engaging senior-level officials, they were effective tools in addressing major challenges faced by the project. They were also effective in the replication and scaling up of project activities on a wider geographical coverage.

- Bringing representatives from all the project villages, together with senior governmental officials as well the technical experts of the interventions, was very effective. **This annual gathering created a heterogeneous network of practitioners to share experiences across the governorates, discuss challenges and highlight success stories, provide technical and managerial support** as needed and shape the project interventions each upcoming year. Equally important, it has created sustainable working relationships that would help these key players maintain and even further develop the activities in the future.
- **Working with existing structures and bodies to own newly-established ones such as information centres, management units and specialized associations has strengthened institutional capacities in the face of climate change.** Firstly, linkages between these structures and entities will remain after the project finishes, ensuring their sustainable operation. Secondly, these efforts provide a legal context for their institutionalization. Last but not least, they have allowed for sustainable support and supervision that enhances performance and efficiency.

By ensuring consultation with all partners, a robust process with stakeholders, with strong ownership at all levels, important results at project level were achieved.^{3,4} Key ones include:

- An estimated 60 percent of the target population understand climate change phenomenon, risks to livelihoods, and adaptation solutions.
- The different forms of community mobilization have reached over 50,000 individuals, and over 90 percent of those questioned indicated they have felt stakeholder participation in designing and implementing the project has been very satisfactory.

3. External evaluation of the project by the Adaptation Fund: https://www.adaptation-fund.org/wp-content/uploads/2012/07/MTE_Final-Report-Egypt.pdf.

4. 2nd Project Performance Report: <https://www.adaptation-fund.org/wp-content/uploads/2012/07/2nd-PPR-Egypt-for-website-1.xls>.

BOX 1

About the Adaptation Fund

The **Adaptation Fund (AF)** established by the UNFCCC to finance concrete adaptation projects and programmes in developing countries that are parties to the Kyoto Protocol and are particularly vulnerable to the adverse effects of climate change. Over the past three years, the fund has dedicated more than US\$ 190 million to increase climate resilience in 28 countries around the world. The AF finances projects that focus on 'reducing vulnerability and increasing the adaptive capacity of human and natural systems to respond to the impacts of climate change.

- 15,000 farmers and extension workers are directly adopting some climate risk reduction measures in agriculture and livestock. An additional 20,000 people are also benefiting.
- Software on climate risk management has been developed, with 5,000 people with direct access and estimates of 20,000 beneficiaries additionally being reached.
- Alerts on two extreme weather events in the 2013 and 2015 wheat seasons were issued with recommendations to reduce losses, protecting people's produce and food security. 14 Climate information centres have been established in partner NGOs to deliver services for climate risk reduction. The NGO centres have 300 dedicated volunteers.
- 806 extension workers have been trained in the field of practical methods to mitigate the negative effect of extreme weather events on wheat cultivation, 350 officials are aware of climate proofing agriculture and water management. 80 advocacy meetings have been held at local and central government, 50 press releases issued, 22 television and 10 radio spots aired. The project is now widely known in its governorates and among the agricultural circles and is increasingly recognized as good practice.
- To date, 17,300 people have benefited directly from access to heat resistant strategic plants (wheat and sorghum), as well as how to change sowing dates, and other soft techniques to reduce climate risks. Some 20,000 people benefited indirectly through seeing the achieved results and adopting the introduced practices in their own fields.
- Two intercropping models have been introduced, which has increased land and water usage efficiency by 50-60 percent, and people's income by 40-50 percent. 250 women have benefited from small loans to acquire heat tolerant livestock varieties.
- Currently, there is a waiting list of farmers who wish to participate with their lands, despite the decline in in-kind incentives, and many farmers from outside the project are adopting the agricultural practices applied within the project. Senior governmental officials indicated that the interventions introduced by the project will be added to the National Campaign to increase the productivity of wheat.
- 8,700 direct beneficiaries started adopting improved efficiency in irrigation using low cost technologies using canal lining. To date, all canals undergoing efficiency improvements benefited from the establishment of 14 water user associations established. There has been a 25-30 percent decrease in irrigation water.
- 15 revolving animal loans schemes have been established for diversification of income. 1,000 women were trained on raising goats in the years 2014 and 2015, with 1027 goats distributed, and all goats were insured. Five vet units have been rehabilitated and partially equipped. These are estimated to benefit 80 percent of the targeted population.
- 1,250 students from agricultural technical schools participated in project activities. They have cultivated, managed and harvested project demonstration fields in their schools. They also visited project fields in neighbouring villages.

The approach of this project and the successes it has contributed to have been recognized as a model for future climate change adaptation programmes in Egypt in the food security and agriculture sectors.

Photo credits

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A widow with 3 children (a boy and 2 girls) who benefit from the goat animal loan provided by the project through the local community development association (partner NGO) to support her family with along her weak pension.

Engaging stakeholders and building ownership for climate adaptation

BEST PRACTICE FROM EGYPT



The Climate Adaptation Management and Innovation Initiative (C-ADAPT) is an initiative funded by the Government of Sweden's fast-track climate finance that allows WFP and partners to explore innovative climate-induced food insecurity analyses, programmes and best practices, with the goal to help individuals, communities and governments meet their food and nutrition needs under a changing climate.



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